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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/672,462 | 09/28/2000 | Takashi Nakano | FUJR17.774 | 8550 |

26304 7590 07/23/2003

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EXAMINER

JAMAL, ALEXANDER

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/672,462 | NAKANO, TAKASHI | |
| | Examiner | Art Unit | |
| | Alexander Jamal | 2643 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 28 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Apparatus for sending a ringing signal and data with reduced impulse noise".

2. The disclosure is objected to because of the following informalities: Abstract, line 12: 'uses' should be 'used'

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-6** rejected under 35 U.S.C. 103(a) as being unpatentable over Doughty (4551581), and further in view of Tabu et al (JP362078941A).

a. **Claim 1:** Doughty describes a method and apparatus for outputting a ringing signal, and a data signal during the silent intervals of the ringing signal comprising:

- i. Ringing voltage generating means (reference 135 Fig 1, Col 3, lines 30-32).

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- ii. Ringing signal sending means for sending a ringing signal with a predetermined duty cycle of a ringing and silent period (reference 133 Fig 1, Col 13, lines 49-53).
- iii. Data transfer means for performing a data transfer to the called terminal over the subscriber line during a silent period (reference 520 Fig 5, Col 1 line 60 thru Col 2 line 2).

But Doughty does not mention:

- iv. Feed impedance setting means for providing a high impedance feed voltage.
- v. Feed impedance selection means for selecting a low-impedance feed voltage for a silent period with data being transferred, and selecting a high-impedance feed during silent periods with no data being transferred.

Tabu teaches a call signal transmission circuit with means for selecting a high or low voltage feed impedance (reference 100 Fig. 1, translation page 4 'OPERATION'). Tabu teaches that a high impedance voltage feed during the silent periods of the ringing cycle can help reduce transient impulse noise (translation page 4, 'OPERATION').

Since Doughty's system specifies that the data transmitted during the silent interval is coupled using low impedance means (Col 10, lines 26-32). It would have been obvious to one of ordinary skill in the art at the time of this application to help reduce the impulse noise in the system by providing a low impedance feed when data is being

transferred or the ringing signal is present, and a high impedance feed at the beginning or end of the ring signal (which usually causes the impulse noise) or during a silent period in which no data or ringing signal is present.

b. **Claim 2:** Doughty's system utilizes a microprocessor interface (reference 502, Fig 5), along with a ringing detector (reference 501, Fig 5) to provide path setup means to magnetically couple a data signal (references 530,531, Fig. 5) onto the subscriber loop when the data is scheduled (during a silent interval). The operation of these components is specified in (Col 8, line 35 thru Col 10 line 49).

c. **Claim 3:** Tabu's system specifies putting a resistor in series with the ringing power source in a subscriber interface circuit (reference 100, Fig 1).

d. **Claim 4:** A ringing voltage generating means inherently comprises a ring voltage source and a ringing signal bias voltage source. Tabu's system includes feed impedance setting means (reference 100, Fig. 1) coupled to a call signal generating device (reference 5, Fig. 2).

e. **Claim 5:** Tabu teaches the use of a high impedance feed at all times except during data transfer or a ring signal. A short interrupt period during the ringing cycle would mean a ring signal was not present on the subscriber pair. Therefore Tabu's teachings would specify using a high-impedance feed in those instances.

f. **Claim 6:** Tabu teaches the use of a high impedance feed at all times except during data transfer or a ring signal. The use of a high impedance feed at the beginning and end of a silent period with data transfer would only occur during the portion of the

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silent period in which data was NOT being transferred. Therefore Tabu's teachings would specify using a high-impedance feed in those instances.

5. **Claim 7** ^{§ 112} rejected under 35 U.S.C. 103(a) as being unpatentable over Doughty (4551581), and further in view of Tabu et al (JP362078941A).

a. **Claim 7:** Doughty describes a method and apparatus for outputting a ringing signal, and a data signal during the silent intervals of the ringing signal comprising:

- i. Ringing voltage generating means (reference 135 Fig 1, Col 3, lines 30-32).
- ii. Ringing signal sending means for sending a ringing signal with a predetermined duty cycle of a ringing and silent period (reference 133 Fig 1, Col 13, lines 49-53).

But Doughty does not mention:

- iii. Feed impedance setting means for providing a high impedance feed voltage.
- iv. Feed impedance selection means for selecting a low-impedance feed voltage for a silent period with data being transferred, and selecting a high-impedance feed during silent periods with no data being transferred.

Tabu teaches a call signal transmission circuit with means for selecting a high or low voltage feed impedance (reference 100 Fig. 1, translation page 4 'OPERATION').


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Tabu teaches that a high impedance voltage feed during the silent periods of the ringing cycle can help reduce transient impulse noise (translation page 4, 'OPERATION'). It would have been obvious to one of ordinary skill in the art at the time of this application to help reduce the impulse noise in the system by providing a low impedance feed when the ringing signal is present, and a high impedance feed at the beginning or end of the ring signal (which usually causes the impulse noise) or during a period in which no ringing signal is present.

b. Claim 8: Tabu teaches the use of a high impedance feed at all times except during a ring signal. A short interrupt period during the ringing cycle would mean a ring signal was not present on the subscriber pair. Therefore Tabu's teachings would specify using a high-impedance feed in those instances.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9315 for After Final communications.


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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